SERVICE MANUAL PMD221/201

marantz®

model PMD221/201

Stereo Cassette Recoder

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound. Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available at our National Marantz Subsidiary or Agent.

MARANTZ EUROPE B.V.
P.O. Box 80002
Building SFF 2
5600 JB Eindhoven
The Netherlands
Phone : +31-40-732241
Fax : +31-40-735578

ORDERING PARTS

Parts can be ordered either by mail or by telex. In both cases, the correct part number has to be specified. The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which the part is required
5. Way of shipment
6. Signature: any order form or telex must be signed, otherwise such part order will be considered as null and void.

ADDRESSES

AUSTRALIA
MARANTZ AUSTRALIA
Figtree Drive
Australia Centre
Homebush, NSW 2140
AUSTRALIA

AUSTRIA
MARANTZ
Hietzinger Kai 137a
1130 Wien
Austria

BELGIUM
MARANTZ EUROPE B.V.
Div. Benelux
P.O.Box 80002
Building SFF 2
5600 JB Eindhoven
The Netherlands

CHILE
MARANTZ DIVISION OF
PHILIPS S.A.
Av.Santa Maria 0760
Casilla 2687
Santiago
Chile

DENMARK
MARANTZ
Horsvinget 5
2630 Tastrup
Denmark

FINLAND
MARANTZ
Kuortanegatan 1
00520
Helsingfors 52
Finland

FRANCE
MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France

GERMANY
MARANTZ GERMANY GmbH
Kleine Heide 12
Postfach 4802
Halle-Westfalen
Germany

GREAT BRITAIN
MARANTZ HiFi UK Ltd.
Kingsbridge House
Padbury Oaks
575-583 Bath Road
Longford Middlesex UB7 OEH,
U.K.

GREECE
ADAMCO ELECTR. SA
P.O.Box 21025
Hippocratus Str. 188
Athens 11471
Greece

ITALY
MARANTZ ITALIANA SPA
Piazza IV Novembre 3
20124 Milano
Italy

JAPAN
MARANTZ JAPAN INC.
35-1, 7-chome, Sagamiono
Sagamihara-shi, Kanagawa
Japan

KUWAIT
AL ALAMIAH ELECTRONICS
P.O.Box 8196
Salmiah
22052 Kuwait

NETHERLANDS
MARANTZ EUROPE B.V.
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P.O.Box 80002
Building SFF 2
5600 JB Eindhoven
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NORWAY
MARANTZ
Postboks 7034
Assiden
3007 Drammen
Norway

PORTUGAL
COREL
Av. da Liberdade
211-2 Esq.
1200 Lisboa
Portugal

SAUDI ARABIA
AL ALAMIAH ELECTRONICS
P.O.Box 5954
University Street
Riyadh 11432
Saudi Arabia

SOUTH AFRICA
MARANTZ S.A.
10 Bond Street
Randburg 2194
P.O. Box 7703
Johannesburg 2000
South Africa

SPAIN
MARANTZ SPAIN
Martinez Villergas 2
Apartado 2065
Madrid 28027
Spain

SWEDEN
MARANTZ
Box 1324
17125 Solna
Sweden

SWITZERLAND
MARANTZ SWITZERLAND
Postfach
8010 Zürich-Müllingen
Switzerland

TRADING
MARANTZ TRADING
P.O.Box 20008
Building SFF 2
5600 JB Eindhoven
The Netherlands

All of the above locations are fully equipped to take care of your total service needs or can advice you. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please contact the nearest facility for the necessary assistance.

In case of difficulties, do not hesitate to contact the Technical Department at above mentioned address.

TABLE OF CONTENTS

How to use this service manual

- The "Common parts" which Marantz Japan, Inc. has established are eliminated from this service manual.
- These "Common parts" are applied to all models in the service manuals arranged and issued by MJI.
- To indicate clearly the common parts in the schematic diagram, a line is drawn above or under the Ref. Desig. No. of applicable parts.
- "Common parts" can be supplied from the Marantz service center as ever.
  In case of ordering, please establish the parts number of 10 figures following the procedure mentioned in this service manual "How to establish the parts number for common parts".

(NOTE)
When you order parts to the Marantz parts center, please take notice of the following points.

1) Please correctly write the parts number of 10 figures following the rule.
2) Since ordering parts by the Ref. Desig. No. or ratings indicated in the schematic diagram does not satisfy the above conditions, the Marantz parts supply system does not work properly.
   As this case is apt to cause a trouble, please pay attention to it.

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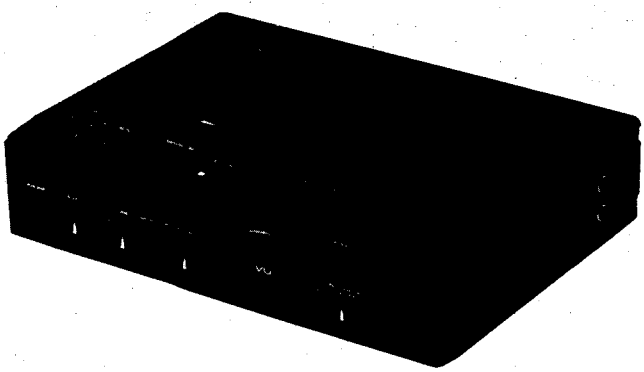
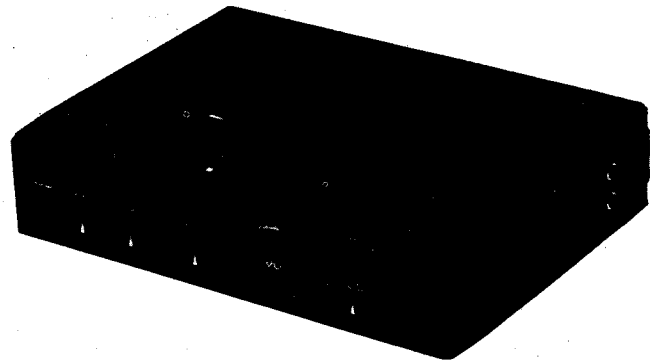
MODEL PMD221/201 STEREO CASSETTE RECORDER



PMD221



PMD201

INTRODUCTION

This service manual are prepared for use by Authorized Warranty Station and contains service information for Marantz Stereo Cassette Recorder.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation of the Cassette Recorder.

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A simple description is included for parts which can be usually obtained through local suppliers.

1. SHOCK, FIRE HAZARD SERVICE TEST:

CAUTION: After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or front Panel of product and controls and chassis bottom.

Any resistance measurement less than 1 Megohms should cause unit to be reparied or corrected before AC power is applied, and verified before return to user/customer.

Ref. UL Standard NO. 1270. Para 66. 3. D (Mandatory Test after servicing Electrical Appliances, effective 7-1-83).

2. P.W. BOARDS

As can be seen from the circuit diagram, the chassis of your Cassette Recorder consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Rec/Play Amp ..... Mounted on P.W. Board PJ00
2. Switch Board ..... Mounted on P.W. Board PS00
3. LED ..... Mounted on P.W. Board PL00
4. Mecha Control ..... Mounted on P.W. Board PM00
5. Speed Switch ..... Mounted on P.W. Board PS01
6. Memory Switch (PMD221 only) Mounted on P.W. Board PM01

3. TEST EQUIPMENT REQUIRED FOR SERVICING

For measuring or checking your Cassette Deck, the following instruments and materials are necessary:

- VTVM
- Audio Oscillator (AF OSC)
- Attenuator (600 Ω)
- Oscilloscope
- Bandpass Filter (1 kHz)
- IEC A-Curve Filter
- Wow and Flutter Meter
- Torque Meter (Cassette Type)
- Digital Frequency Counter
- Distortion Meter
- Blank Tapes (Completely erased with bulk eraser)
  TDK AC-212 (Normal)
  TDK AC-512 (Special/CrO_2)
  TDK AC-712 (Metal)

NOTE:
If any doubt is noted in a measured value, use new tape.

- Test Tapes (New Tape)

TCC-111•MTT-111	Wow and Flutter, Tape Speed
TCC-140•MTT-112B	Signal-to-Noise Ratio
TCC-130•MTT-150	Adjustment of Output Level
TCC-161•MTT-256	Frequency Response (for Normal)
TCC-261•MTT-356	Frequency Response (for Special/CrO_2 and Metal)
TCC-192•MTT-121	Cross Talk
TCC-194•MTT-141 (A-BEX)•(TEAC)	Channel Separation

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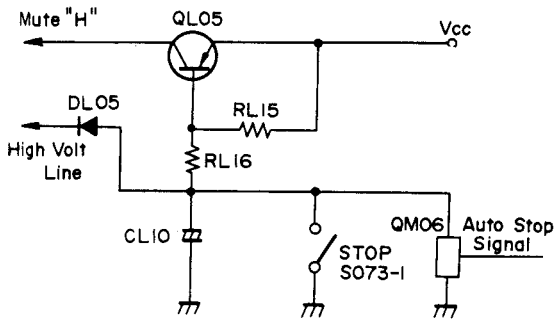
4. MECHANISM AND CIRCUIT DESCRIPTION

4.1 Muting System

The muting circuit is provided to reduce the pops noise when generates on the Line Out at power ON/OFF.

1) **When power is turned on . . . . .**
   As the emitter voltage of QL05 is higher than the base voltage during the charge current flows to CL10 through RL15 & RL16, QL05 is ON and it sends the muting voltage.
   CL10 has been charged up, both the base and the emitter voltages of QL05 are equal. QL05 is OFF and the muting is released.
2) **When the STOP button is depressed . . . . .**
   When the stop switch S073-1 is ON, the base current flows through. Also discharging CL10, QL05 is ON instantly, the muting system operates to reduce the pops noise at power ON/OFF.
   QM06 provides to discharge CL10 on AUTO STOP.
   As the muting time is in proportional to capacitance of CL10, it is preset by matching the threshold time of TAPE EQ Amp.
   DL05 provides to discharge CL10 on FF and REW.



4.2 Auto Play and Automatic Rewind Stop (PMD221 only)

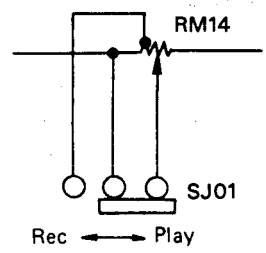
With SS01 set to ON during PLAY, the rewind button will lock when pressed. When counter reaches 999, the rewind lock releases and the PLAY operation resumes. In this condition, both CUE and REVIEW buttons do not operate and both buttons are locked. Also, when the FF button is pressed and locked in place, the lock releases when the counter reaches "900" and the PLAY mode is entered. When the tape has finished winding in both modes before the counter reaches the respective positions, the AUTO STOP function and all buttons are released. Also when the REWIND button alone is locked, the tape rewinds and rewind stops when the counter reaches "999". The same applies for fast foward operation which stops at "900". When the counter is between "900" and "999", both REWIND and FF buttons do not lock.

4.3 Auto Stop

The AUTO STOP function which detects the end of the tape is carried out by hole IC (QM07). The signal from QM07 is added to the pin ④ of QM08, while the auto stop duration is designated inside QM08. The time it takes for the auto stop function to activate after the tape stops, is determined in CM08. At this time TE is TE = 75 x CM08 (μF)mSec, while TW is TW = 30 x CM07 (μF)mSec as long as the auto stop function is operating. When it does not shut off the first time, TE--TW--TE--TW is repeated until it shuts off.

4.4 Pitch Control

The pitch control is used to vary the tape speed for playback operation. During recording, it is automatically set to the RM14 center position by SJ01.

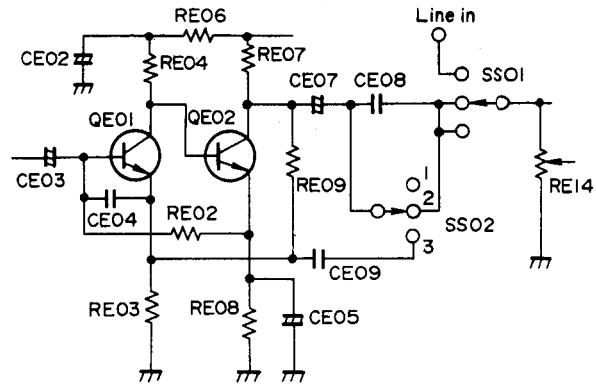


4.5 Ambient Noise Control (ANC)

ANC changes the bandwidth of the signals with the Mic Amp.

1. High pass
2. Normal
3. Band pass

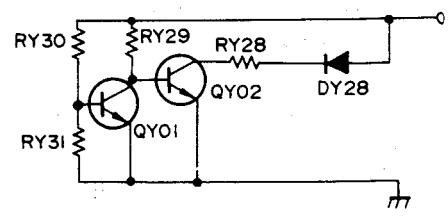
CE08 and RE14 determine the Low Frequency cut. The NF volume of CE09 determines the High Frequency cut.



4.6 Low Battery Indicator

This circuit illuminates the LED when the supply voltage level is attenuated.

The dividing ratio for RY30 and RY31 determines the voltage at which the light is illuminated.
LED (DY28) is lit up when the base voltage of QY01 is less than about 0.6V.



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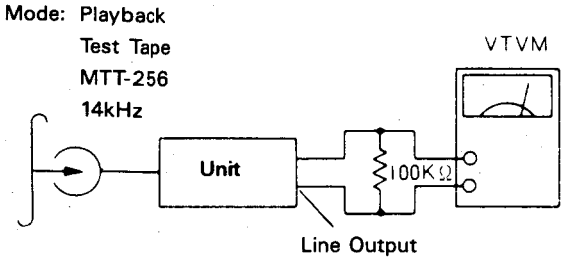
5. ELECTRICAL ADJUSTMENTS

Precautions for Adjustment and Measurement

1. Before playing back the test tape, thoroughly demagnetize the heads, capstan and similar metal parts using an erase, as the test tape-recorded tone is easily erased.
2. Do not place the test tape on any measuring instrument.
3. Do not put the test tape near a place where the eraser is used.
4. Method of Demagnetization; Turn the eraser power switch on at a position far away from the heads. Bring the eraser close to the heads, capstan and other parts to be demagnetized, and move it up and down four or five times to demagnetize. Slowly separate the eraser far away from the parts, and turn the power switch off.
5. Do not use any magnetized adjusting tool. If necessary, demagnetize with a bulk eraser from time to time in the course of each adjustment.
6. Do not turn semi-fixed resistor or coil more than needed.
7. Measure speed and wow and flutter in the normal operating state.
8. Do not apply locking bond excessively.

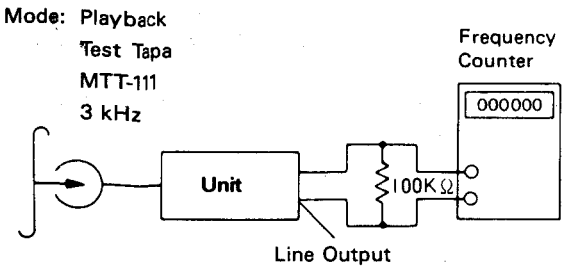
5.1 Head Azimuth Adjustment

1. Play the test tape MTT256 back. Adjust the head azimuth adjusting screw for maximum VTVM reading.
2. After adjustment, repeat the playback and stop settings several times to confirm no azimuth deviation.
3. After adjustment, lock the screws with bond.



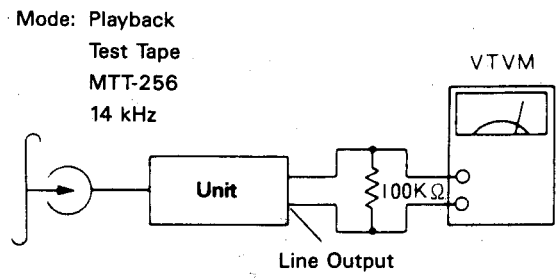
5.2 Tape Speed Adjustment

1. Play the 3kHz signal of the test tape MTT-111 back.
2. Adjust the adjusting resistor (RM04) on the PM00 P.W. Board so that counter readings are between 2990 — 3010Hz.
3. Then, adjust the Speed Selector Switch to LOW PLAY, and play MTT-111 back.
4. Adjust the adjusting resistor (RM15) on the PJ00 P.W. Board so that the counter readings are between 2900 — 3010 Hz.



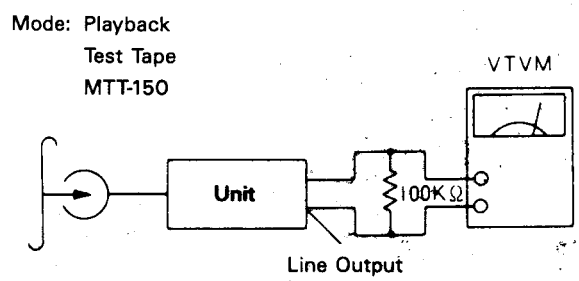
5.3 Playback Equalizer Measurement

1. Adjust the tape selector switch to NORMAL.
2. Play the 315Hz signal of the test tape MTT-256 back. The VTVM at OdB.
3. Play the 12.5kHz signal of the test tape back. Confirm a frequency response of 0 to 2dB in reference to the 315Hz signal level. Then, play the 12,5kHz signal back. Set the tape selector to CrO_2, Metal. Confirm the 12.5kHz signal readings at — 4.5dB, ± 1dB.



5.4 Playback Level Adjustment

1. Adjust the Tape Selector Switch to NORMAL and turn the NR switch OFF.
2. Play the test tape MTT-150 back. Adjust RJ16 so that the voltage of Line output is 580mV.



5.5 Level Meter Adjustment

1. Adjust the Tape Selector Switch to NORMAL.
2. Play the test tape MTT-150 back. Adjust RX01 at 0dB Level Meter reading.

5.6 Playback Noise Measurement

1. Set the selector switch to NORMAL.
2. Play back the blank tape and make sure that the noise volume is below 2mV when the REC LEVEL Knob is set to both maximum and minimum.

NOTES:

1. Perform measurements when the power hum is a at minimum.
2. Perform measurements under conditions where induction noise will not affect measurements.

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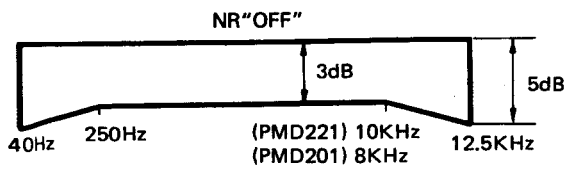
5.7 Record/Playback Frequency Response and Recording Level Adjustment

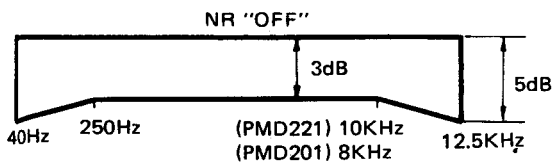
[NORMAL]

1. Set the tape selector switch to NORMAL.
2. Insert the AC-212 test tape in the cassette holder and set the recording conditions. (Set the monitor switch to SOURCE) and attenuate from 1kHz, 580mV to – 25dB on Line Out. (The direction included in parenthesis is applicable only for the PMD221.)
3. Rewind and play the tape back, then set RL12 so that the level of 1kHz is brought within ±0.5dB.
4. When playing the tape back, set RK01 so that the level of 1kHz is the same as that on the Rec Monitor.
   Change the Monitor Switch to TAPE SOURCE, and set RK01 so that the level of 1kHz is the same as that before.
5. After making these adjustments, record and play back at 1kHz, 10kHz, 12.5kHz. Make sure results comply with the following diagram.



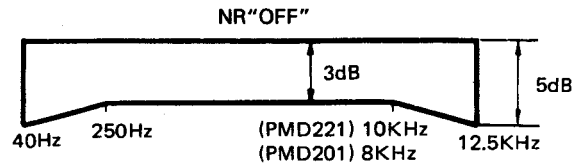
[CrO_2]

1. Set the tape selector switch to CrO_2.
2. Insert the AC-512 test tape in the cassette holder and set the recording conditions. Attenuate from 580mV to – 25dB on Line Out with the attenuator and record at 1kHz, 10kHz, and 12.5kHz on an unrecorded section of the tape.
3. Record and playback at 1kHz, 10kHz, and 12.5kHz.
   Make sure results comply with the following diagram.



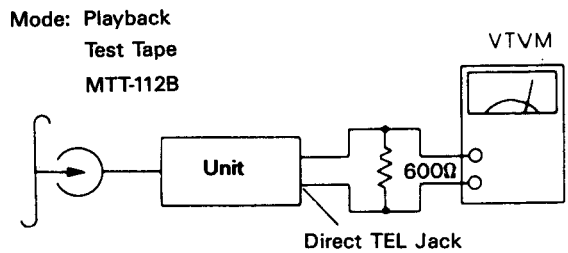
[METAL]

1. Adjust the Tape Selector Switch to METAL.
2. Load the test tape AC-712 into cassette holder. Perform measurements as with CrO_2, and make sure they conform with the Chart.



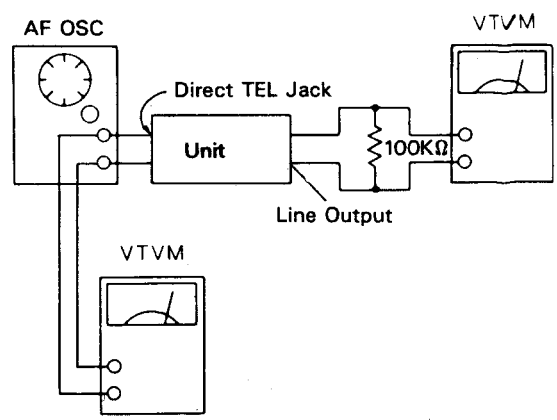
5.8 Direct Telephone Output Measurement

1. Play the test Tape MTT-112B back.
2. Perform measurements of the output voltage on the Direct TEL Jack, when the Monitor volume is at the maximum setting.



5.9 Direct Telephone Input Measurement

1. Set the recording conditions, and adjust the Monitor Switch to SOURCE.
2. Set the Rec Level to maximum, the Rec Mode to MANUAL.
3. Add a 1kHz signal to Direct TEL Jack, and set the input signal to attenuate from 580mV to – 3dB on Line Output.



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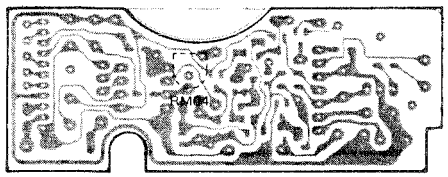
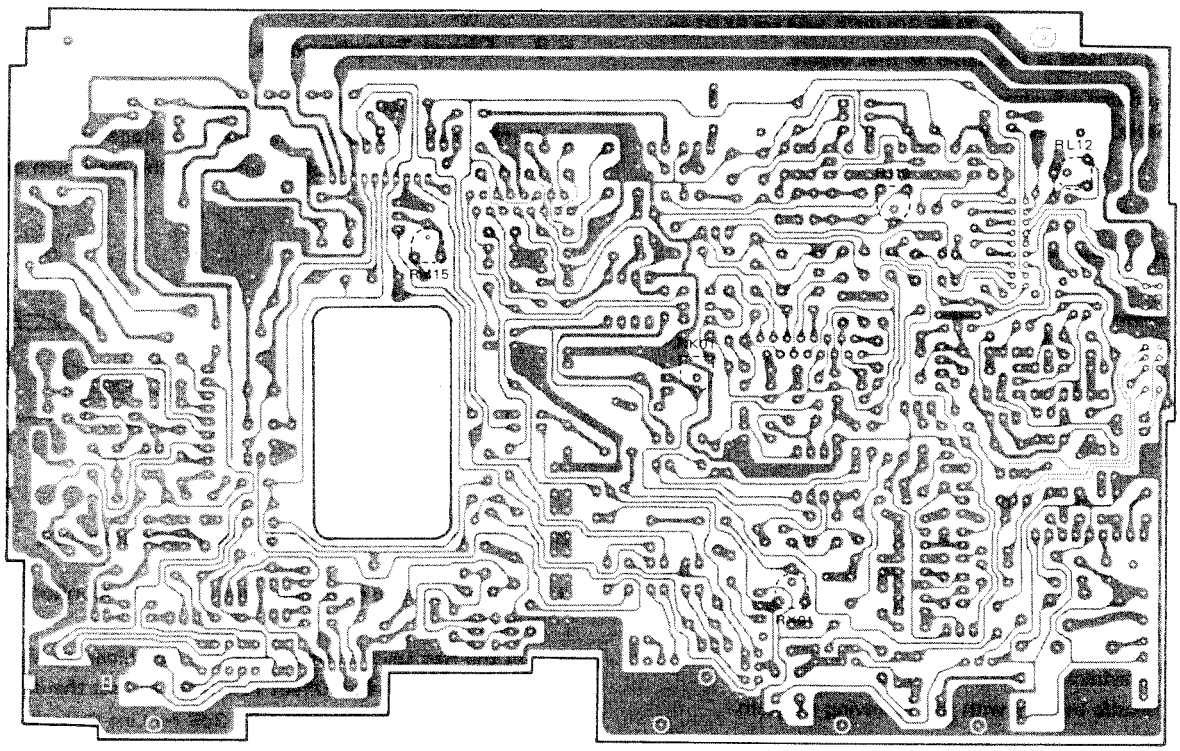
5.10 Alignment Points

PM00



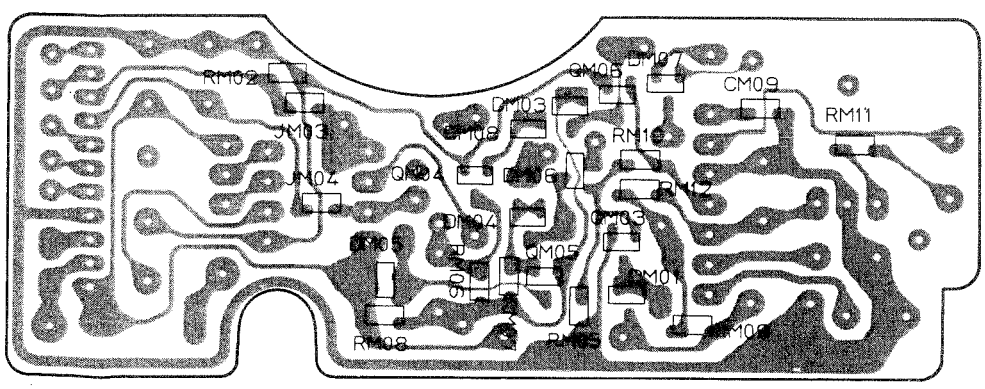
PJ00



6. DIAGRAMS

6.1 Chip Parts Component Locations

PM00



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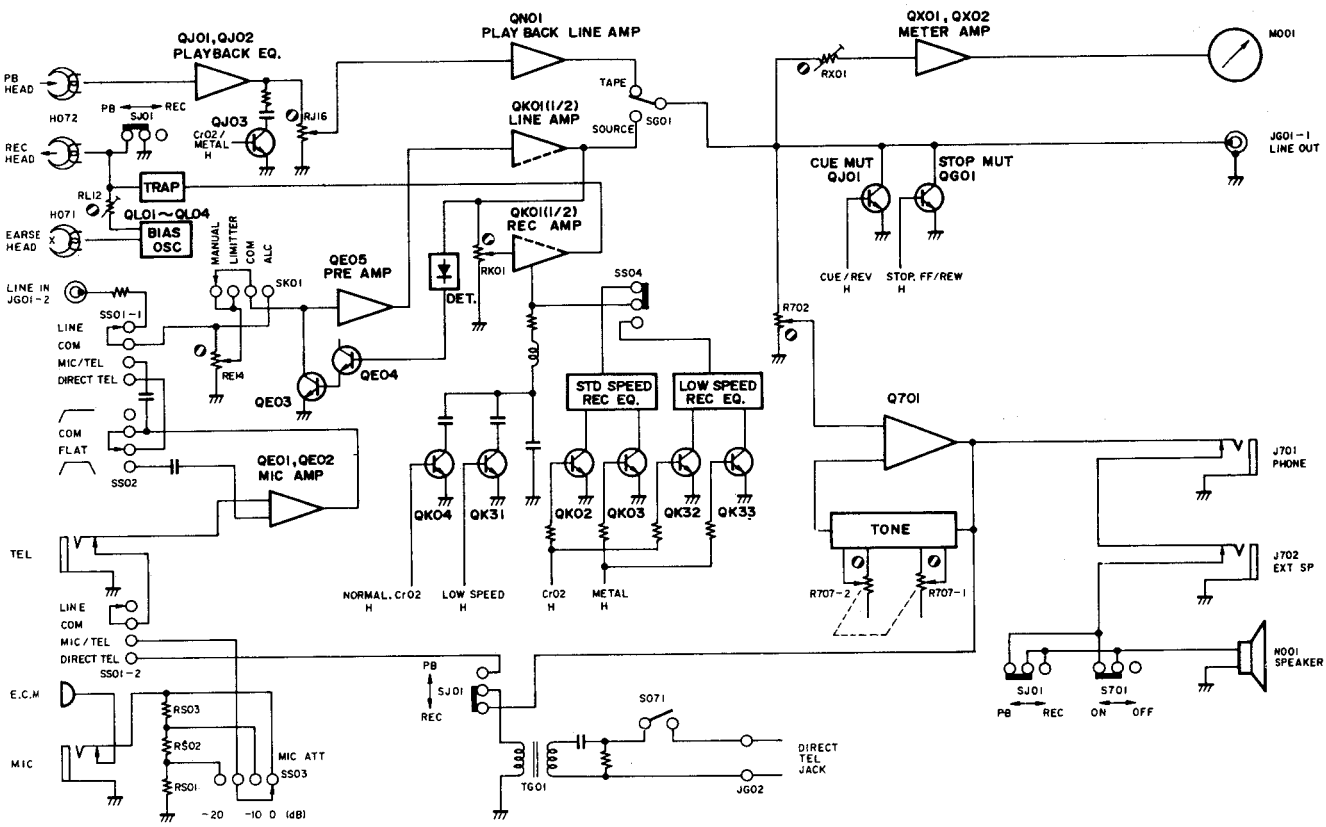
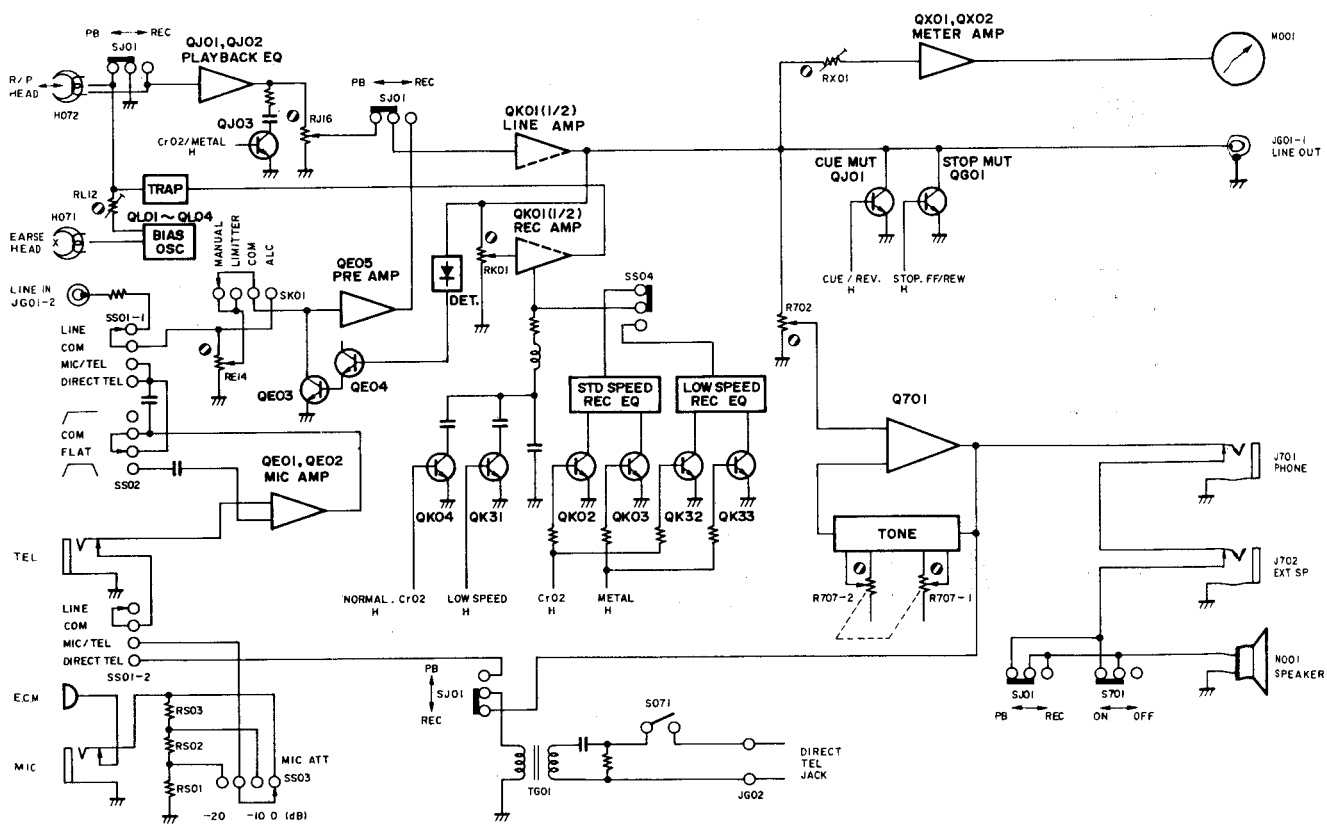
6.2 Block Diagrams

(PMD221)



(PMD201)



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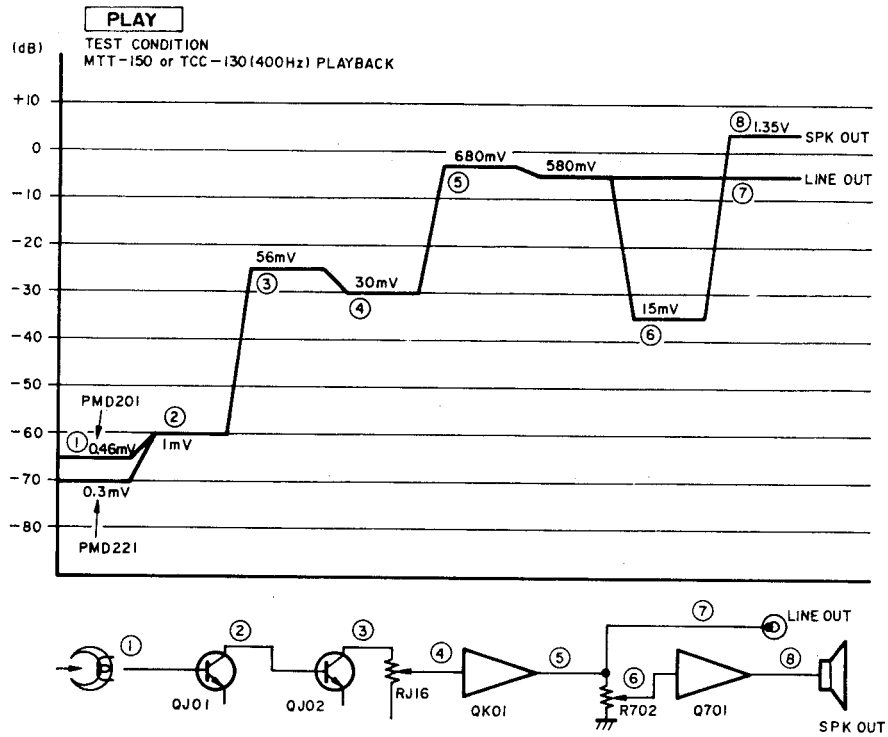
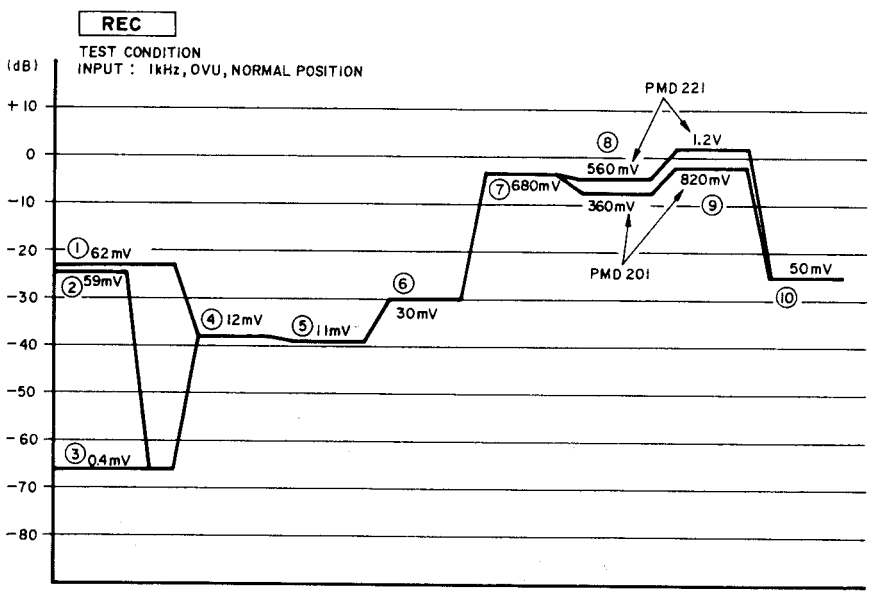
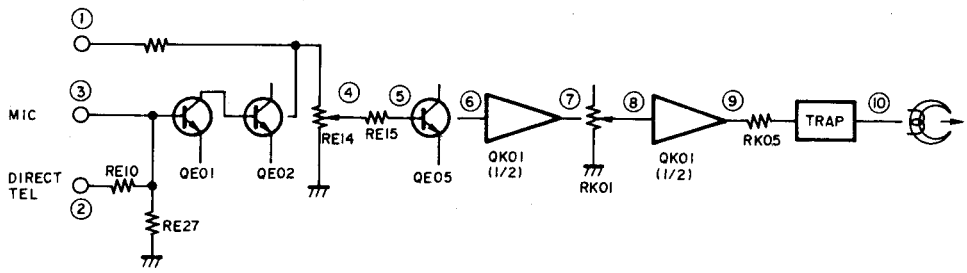
3.3 Level Diagram PMD201/221

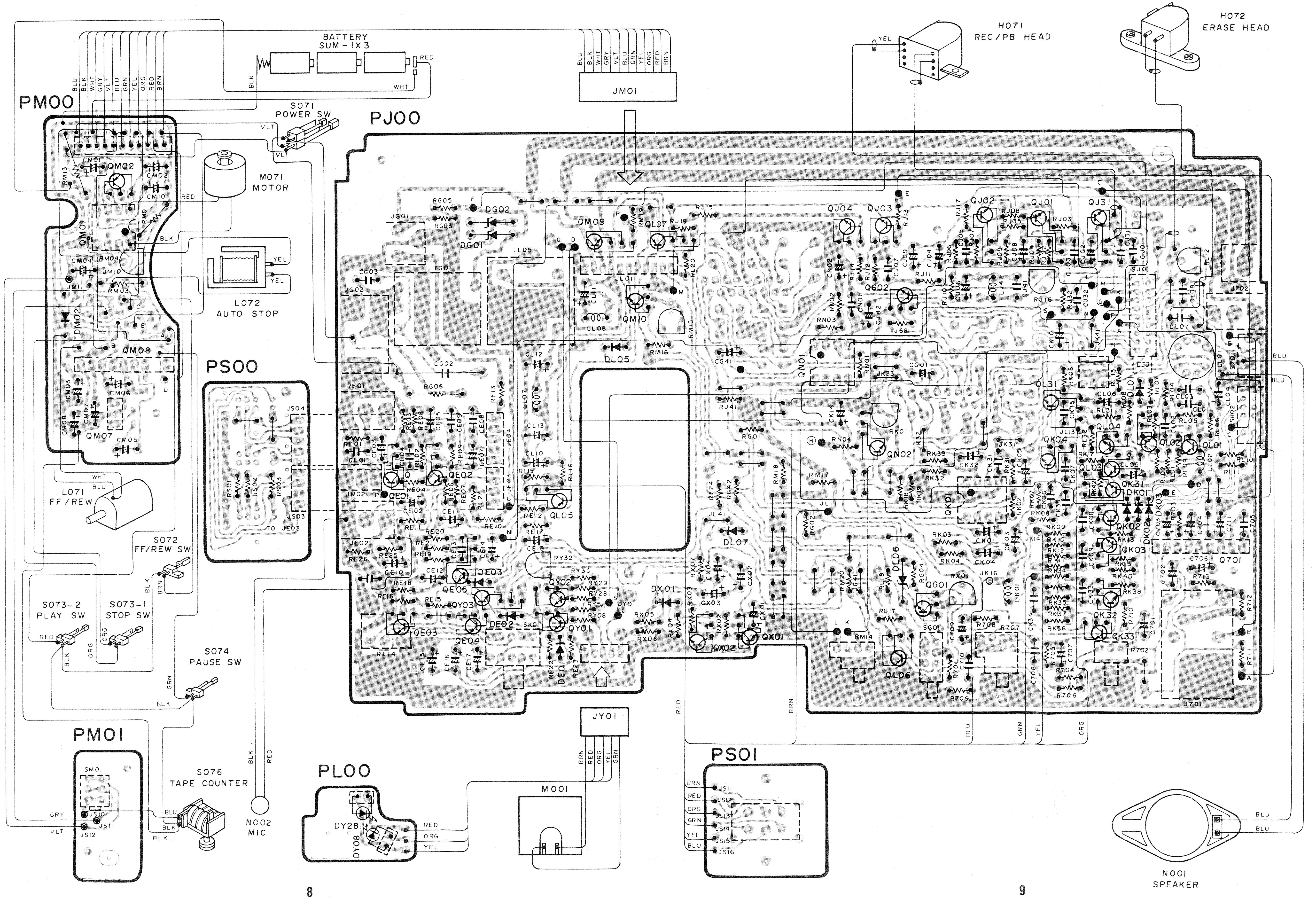






6.4 Wiring Diagrams

Model PMD221



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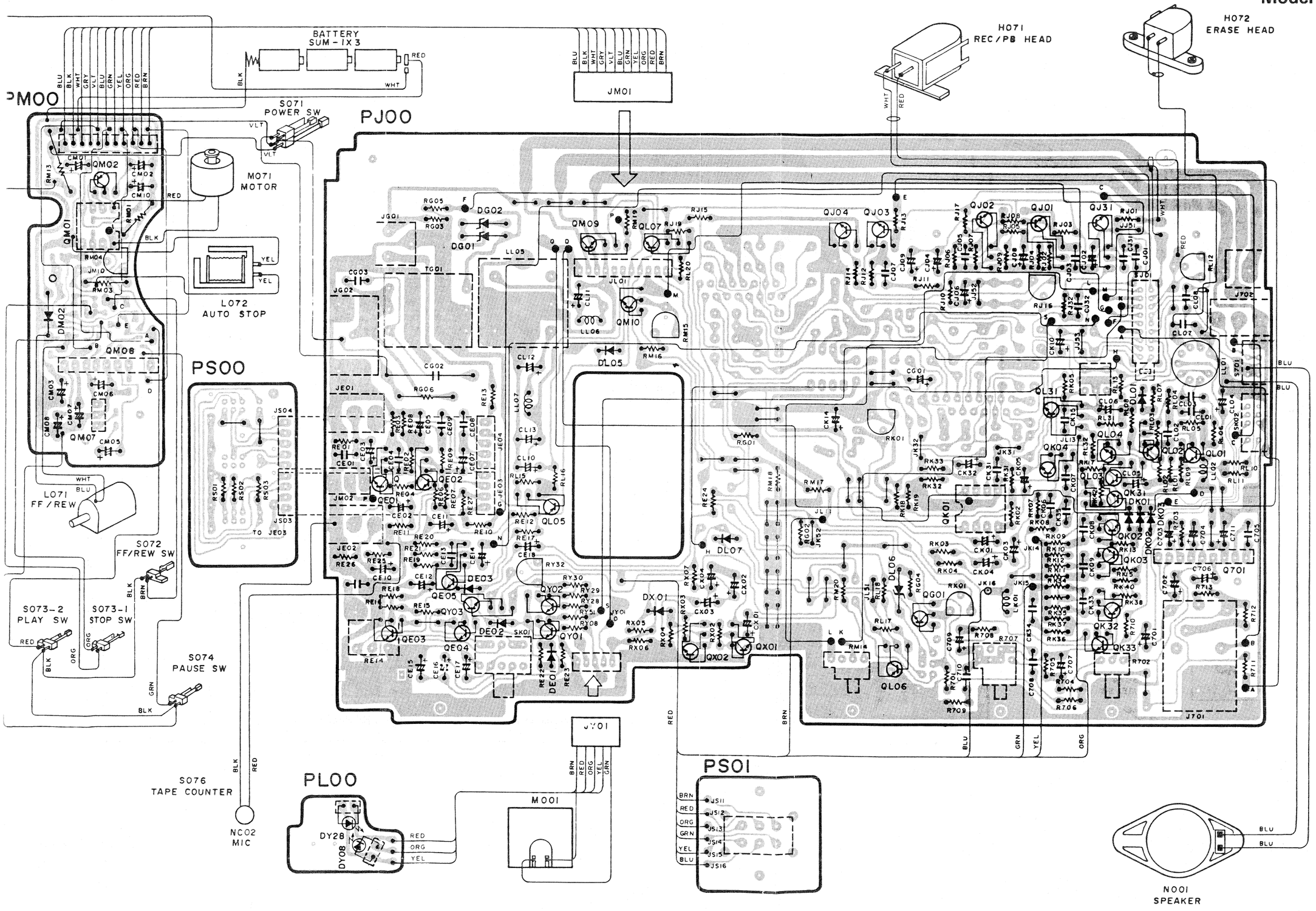
Model PMD201



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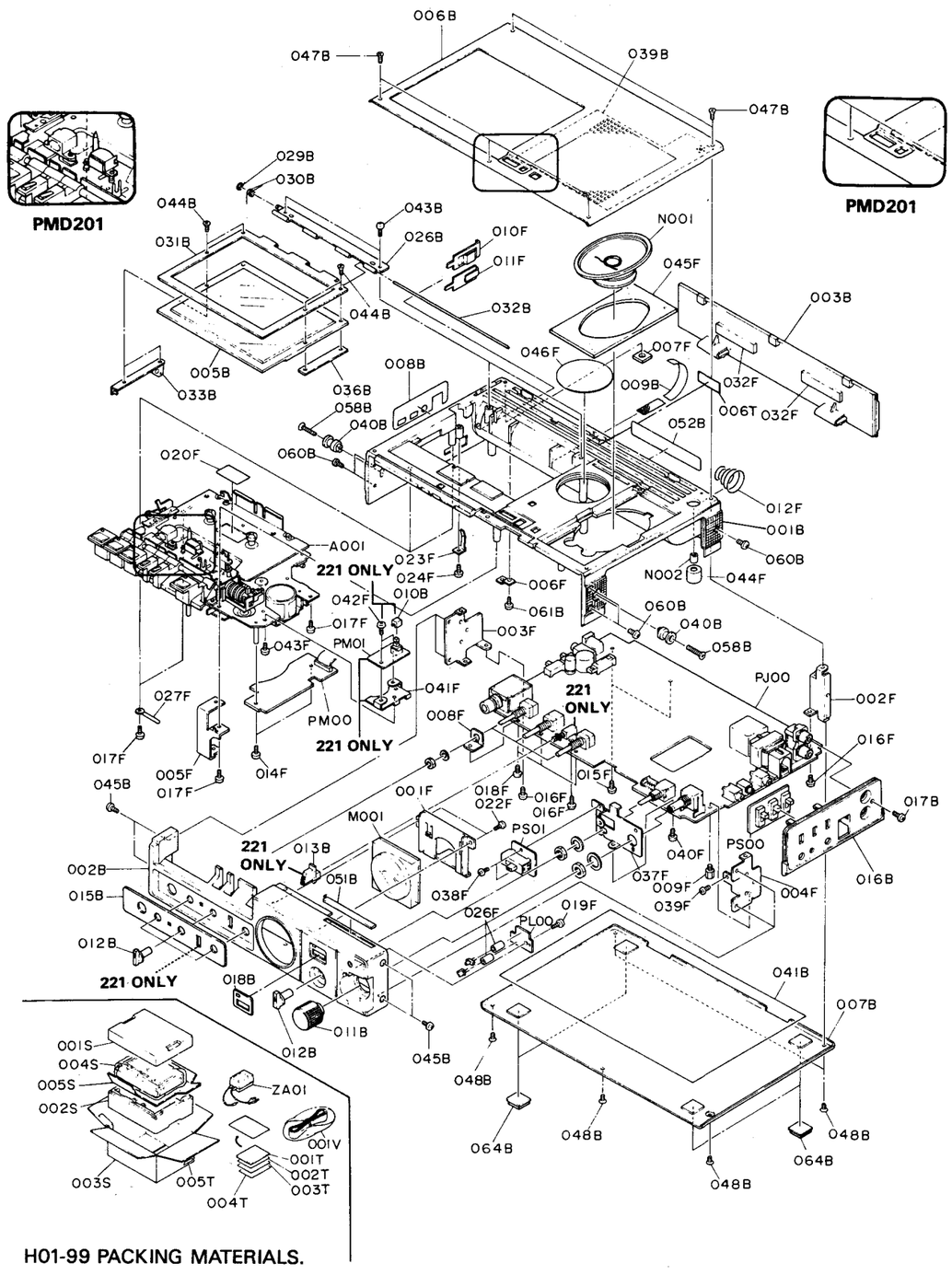
7. EXPLODED VIEW AND PARTS LIST

[C01-99] FRONT PANEL AND GENERAL PARTS



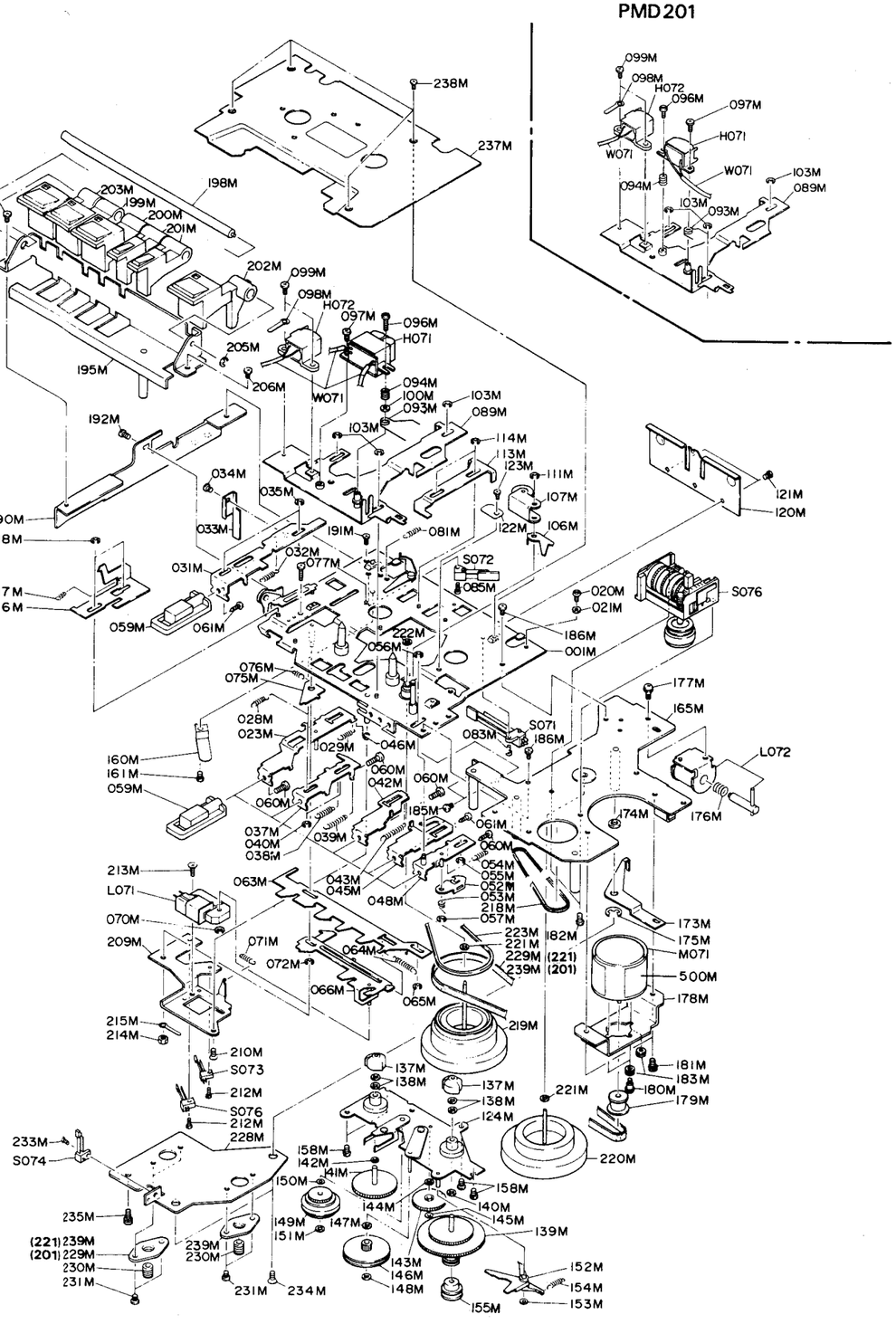
H01-99 PACKING MATERIALS.

REF. DESIG.	PART NO.	DESCRIPTION
001B	153T064060	Case (A), Top
002B	196T248010	Front Panel (PMD221)
002B	196T248110	Front Panel (PMD201)
003B	153T257010	Lid, Battery
005B	153T257030	Lid, (C) Cassette
006B	196T053010	Cover (A), Top (PMD221)
006B	196T053110	Cover (A), Top (PMD201)
007B	153T053100	Cover (B), Bottom (PMD221)
007B	153T053110	Cover (B), Bottom (PMD201)
008B	196T861010	Label, Case (A)
009B	196T007010	Strip, Battery
010B	196T270010	Button, Memory REW (PMD221)
011B	196T154010	Knob, REC Level
012B	153T154030	Knob, LEVEL, TONE, PITCH, REC MODE
013B	153T154040	Knob, MONITOR (PMD221)
015B	196T265010	Indicator, Front (PMD221)
015B	196T265110	Indicator, Front (PMD201)
016B	196T265020	Indicator, Jack Board
017B	51300312U0	P.H. Tapped Screw P3x12
018B	196T303010	Mask, Indicator
026B	153T153500	Hinge Ass'y (A)
029B	64002500A0	RG Ring, E
030B	153T115090	Spring
031B	153T153020	Hinge (B)
032B	153T112380	Shaft (B)
033B	153T104500	Retainer Ass'y
036B	153T104040	Retainer (C)
039B	196T107010	Sheet
040B	153T055010	Collar
041B	153T120010	Insulator
043B	51302606U0	P.H. Tapped Screw P2.6x6
044B	51840204S0	F.H.M. Screw F2x4
045B	51102606S0	B.H.M. Screw B2.6x6
047B	51842607S0	F.H.M. Screw F2.6x7
048B	51842605S0	F.H.M. Screw F2.6x5
051B	153T251010	Badge
052B	153T861010	Label
058B	51040318S0	F.H.M. Screw F3x1.8
060B	51102606S0	B.H.M. Screw B2.6x6
061B	51300306B0	P.H. Tapped Screw P3x6
064B	153T057000	Leg, Cover (B)
001F	196T104010	Retainer
002F	153T160050	Bracket (A)
003F	153T160060	Bracket (B)
004F	196T160030	Bracket (C)
005F	153T160080	Bracket (D)
006F	153T104050	Retainer (D)
007F	153T104060	Retainer (E)
008F	153T104070	Retainer (F)
009F	153T113010	Stud
010F	153T129010	Terminal (+)
011F	153T129020	Terminal
012F	YL11010090	Terminal (−)
014F	51062605A0	P.H.M. Screw P2.6x5
015F	51302608B0	P.H. Tapped Screw P2.6x8
016F	51572606B0	P. Tapped Screw P2.6x6
017F	51300308B0	P.H. Tapped Screw P3x8
018F	51572604B0	P. Tapped Screw P2.6x4
019F	51300306B0	P.H. Tapped Screw P3x6
020F	251T274010	Reflector
022F	51300308B0	P.H. Tapped Screw P3x8
023F	153T115100	Spring
024F	51300306B0	P.H. Tapped Screw P3x6
026F	153T055020	Collar

REF. DESIG.	PART NO.	DESCRIPTION
027F	422005020	Clamper
032F	320Z060010	Clinger
037F	196T160020	Bracket (PMD221)
038F	51062605A0	P.H.M. Screw P2.6x5 (PMD221)
039F	51062605A0	P.H.M. Screw P2.6x5
040F	51062605A0	P.H.M. Screw P2.6x5
041F	196T160050	Bracket
042F	51062605A0	P.H.M. Screw P2.6x5
043F	51060303A0	P.H.M. Screw P3x3 (PMD221)
044F	305H056010	Buffer
045F	196T056010	Buffer
046F	196T257010	Lid, Speaker Hole
A001	196T304500	Mechanism Assembly (PMD221)
A001	195T304500	Mechanism Assembly (PMD201)
M001	IM31040030	V.U. Meter
N001	QJ72478010	Speaker 4Ω 0.5W
N002	MS50000150	Mic Unit, ECM
		H01-99
		PACKING MATERIALS
001S	153T809010	Cushion (A)
002S	153T809020	Cushion (B)
003S	196T801010	Packing Case (PMD221)
003S	195T801010	Packing Case (PMD201)
004S	9013025010	Polyethyrene Bag
005S	196T803010	Partitioner
001T	196T851210	User Manual
002T	196T851220	User Manual, Spec Flysheet (PMD221)
002T	195T851220	User Manual, Spec Flysheet (PMD201)
003T	103H854010	Warranty Card
004T	180T854010	Warranty Card
005T	9526019020	Serial No. Card
006T	2112265010	Serial No. Label
001V	153T156010	Strap
ZA01	AA12005020	A.C. Adaptor

Mgo83

PMD201



REF. DESIG.	PART NO.	DESCRIPTION
001M	153T105500	Chassis Ass'y, Main
020M	153T010090	Screw
021M	59020402G0	Washer
023M	153T354500	Lever, Stop Lever Ass'y
028M	251T115100	Spring, S/F Select Cam
029M	153T115170	Spring, Stop Lever
031M	153T354020	Lever, REC
032M	153T115210	Spring, REC Lever
033M	153T125010	Joint, Leaf Spring REC Switch
034M	254T010200	Screw
035M	64001500L0	RG Ring, REC Lever
037M	251T354010	Lever, FWD
038M	251T115220	Spring, Head Base
039M	251T115110	Spring, FWD Lever
040M	64001500L0	RG Ring, FWD Lever
042M	251T354020	Lever, REW
043M	251T115130	Spring, REW Lever
045M	254T354030	Lever, FF
046M	242T115160	Spring, FF Lever
048M	153T354510	Lever Ass'y, Pause
052M	153T002040	Arm, Pause Lock Cam
053M	153T115060	Spring, Pause Lock Cam
054M	153T115140	Spring, Pause Lever
055M	64001500L0	RG Ring, Pause Lever
056M	64000200L0	RG Ring, Pause Lever
057M	64001500L0	RG Ring, Pause Cam
059M	153T354040	Lever, Link Button
060M	51400205P0	B.H. Tapped Screw B2x5
061M	51380205P0	P.H. Tapped Screw P2x5
063M	153T054010	Cam, Lock Plate
064M	153T115160	Spring, Lock Plate
065M	64001500L0	RG Ring, Lock Plate
066M	153T054500	Cam, QMS Lock Plate Ass'y
070M	64001500L0	RG Ring, E
071M	251T115140	Spring, QMS Lock Plate
072M	64000200L0	RG Ring, Lock Plate
075M	251T002100	Arm, REC Inter Lock Plate
076M	251T115150	Spring, REC Inter Lock
077M	153T010120	Screw, Hook Spring
081M	153T115250	Spring, REC Sefety
083M	51841703B0	F.H.M. Screw F1.7x3
085M	153T010140	Screw, F/R Switch
089M	154T105510	Head Base Ass'y
093M	154T115190	Spring, Pinch Roller (PMD221)
093M	153T115190	Spring, Pinch Roller (PMD201)
094M	154T115020	Spring, Azimuth (PMD221)
094M	242T115190	Spring, Azimuth (PMD201)
096M	154T010190	Screw, Azimuth
097M	51060203S0	P.H.M. Screw P2x3
098M	305H005030	Clamper, Head Wires
099M	51100205S0	B.H.M. Screw B2x5
100M	153T012010	Washer, Pinch Roller Spring (PMD221)
103M	64001500L0	RG Ring, Head Base
106M	153T002010	Arm, Pause
107M	153T002590	Arm Ass'y, Pinch Roller
111M	64001500L0	RG Ring, Pinch Arm
113M	242T354160	Lever, Switch & CUE/REV
114M	64001500L0	RG Ring, Switch C/R Lever
116M	254T258010	Hook, Eject Hook Lever
117M	251T115170	Spring, Hook Lever
118M	64001500L0	RG Ring, Hook Lever
120M	153T115010	Spring, Cassette Back
121M	254T010200	Screw, Cassette Back Spring
122M	251T005100	Clamper, Take-Up Idler
123M	254T010200	Screw, Take-Up Idler

REF. DESIG.	PART NO.	DESCRIPTION
124M	153T105550	Chassis Ass'y, Reel
137M	153T256050	Hub, Take-Up & S Reel Cap
138M	59020405G0	Washer, Under Reel Cap
139M	153T058010	Gear, Take-Up Reel Gear Ass'y
140M	59020402G0	Washer, Under Clutch
141M	153T058020	Gear, Supply Reel Gear Ass'y
142M	59020402G0	Washer, Under Supply Reel Ass'y
143M	242T058110	Gear, FF
144M	59020402G0	Washer, Under FF Gear
145M	254T012220	Washer, FF Gear
146M	242T262100	Pulley, FWD Idler
147M	59163202G0	Washer, Under FWD Idler
148M	153T118130	Spacer, FWD Idler
149M	242T262110	Center Pulley Ass'y
150M	153T118120	Spacer, Under C Clutch
151M	153T118130	Spacer, C Pulley Ass'y
152M	242T002100	Arm, Shut OFF
153M	254T012230	Washer, Shut OFF Arm
154M	153T115040	Spring, Shut OFF Arm
155M	153T262020	Pulley, Counter
158M	254T010200	Screw, Reel Chassis Ass'y
160M	153T115020	Spring, Leaf
161M	254T010200	Screw
165M	153T105520	Chassis Ass'y, Sub Fly
173M	153T121010	Link, Auto Stop
174M	59050805G0	Washer, Auto Stop Link
175M	64000400L0	RG Ring, Auto Stop Link
176M	153T115030	Spring, Auto Stop Solenoid
177M	51442604A0	L. Washer Screw L2.6x4
178M	195T160090	Bracket, Motor
179M	195T262240	Pulley, Motor
180M	254T010250	Screw, Motor
181M	51442604A0	L. Washer Screw L2.6x4
182M	51302605B0	P.H. Tapped Screw P2.6x5
183M	254T259200	Bushing, Motor
185M	153T010110	Screw, Sub Fly Chassis
186M	254T010210	Screw, Sub Fly Chassis
190M	153T160040	Bracket, Left Side
191M	254T010210	Screw, L-Side Bracket
192M	153T010110	Screw, L-Side Bracket
195M	153T271500	Button Frame Ass'y
198M	153T112130	Shaft, Button
199M	153T270010	Button, Stop
200M	153T270020	Button, FWD
201M	153T270030	Button, REW & FF
202M	153T270040	Button, Pause
203M	153T270050	Button, REC
205M	64000200L0	RG Ring, Button Shaft
206M	5110020350	B.H.M. Screw B2x3
209M	153T160010	Bracket, QMS Magnet
210M	51041703S0	F.H.M. Screw F1.7x3
212M	153T010130	Screw
213M	51040208A0	F.H.M. Screw F2x8
214M	53111703A0	Hexagon Nut, QMS Bracket
215M	251T005110	Clamper, Under Nut
218M	153T264020	Belt, Counter
219M	153T273010	Flywheel Ass'y, Main
220M	153T273020	Flywheel Ass'y, Sub
221M	59163202G0	Washer, Under Flywheels
222M	153T118110	Spacer, Oil Fence
223M	242T264120	Belt, Drive
228M	153T160030	Bracket, Fly Back Retainer
229M	153T264010	Belt, Main (PMD221)
229M	153T104010	Retainer (PMD201)
230M	153T164010	Adjuster

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REF. DESIG.	PART NO.	DESCRIPTION
231M	254T010210	Screw
233M	153T010130	Screw, Pause Switch
234M	51042604A0	F.H.M. Screw F2.6x4
235M	51442604A0	L. Washer Screw L2.6x4
237M	153T053010	Cover, Mecha
238M	254T010200	Screw, Mecha Cover
239M	153T104010	Retainer (PMD221)
239M	153T264010	Belt, Main (PMD201)
500M	153T109010	Sield (PMD201)
H071	LH82162030	REC/Play Head (PMD221)
H071	LH41601040	REC/Play Head (PMD201)
H072	LH31000570	Erase Head
L071	ME00140040	Solenoid Coil, QMS Auto REW
L072	ME10180010	Solenoid Coil, Auto Stop
M071	MM00450020	D.C. Motor
S071	SM02010180	Mini Switch, Motor
S072	SM01011140	Mini Switch, F/R
S073	SM01011210	Mini Switch, Play/Stop
S074	SM01011210	Mini Switch, Pause
S076	153T052010	Counter (PMD221)
S076	195T052010	Counter (PMD201)

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ASSIGNMENT OF COMMON PARTS CODES

RESISTOR

*(1) GD05□□□140, Carbon film fixed resistor, ±5%,1/4W
*(2) GD05□□□160, Carbon film fixed resistor, ±5%, 1/6W
① — Resistance value

Examples
① Resistance value

0.1Ω 001	100Ω 100	1kΩ 102	100kΩ 104
0.5Ω 005	18Ω 180	2.7kΩ 272	680kΩ 684
1Ω 010	100Ω 101	10kΩ 103	1MΩ 105
6.8Ω 068	390Ω 391	22kΩ 223	2.2MΩ 225

te) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

* : CERAMIC CAP.
(1) DD1□□□□370, Ceramic condenser
Disc type
① ② Temp. coeff. P350 ~ N1000, 50V
② Capacity value
Tolerance

Examples
① Tolerance (Capacity deviation)
±0.25pF ... 0
±0.5pF ... 1
±5% 5

olerance of COMMON PARTS handled here are as follows:
0.5pF ~ 5pF ... ±0.25pF
6pF ~ 10pF ... ±0.5pF
12pF ~ 560pF ... ±5%

② Capacity value

0.5pF ... 005	3pF ... 030	100pF ... 101
1pF ... 010	10pF ... 100	220pF ... 221
1.5pF ... 015	47pF ... 470	560pF ... 561

* : CERAMIC CAP.
(1) DK16□□□300, High dielectric constant ceramic condenser
① Disc type
Temp. chara. 2B4, 50V
Capacity value

Examples
① Capacity value

100pF ... 101	1000pF ... 102	10000pF ... 103
470pF ... 471	2200pF ... 222	

* : ELECTROLY CAP. (⊕), FILM CAP. (±)

(1) EA□□□□□□10, Electrolytic condenser
① ② One-way lead type, Tolerance ±20%
② Dielectric strength
Capacity value

Examples
① Capacity value

0.1μF ... 104	4.7μF ... 475	100μF ... 107
0.33μF ... 334	10μF ... 106	330μF ... 337
1μF ... 105	22μF ... 226	1000μF ... 108
		2200μF ... 228

② Working voltage

6.3V ... 006	25V ... 025
10V ... 010	35V ... 035
16V ... 016	50V ... 050

(2) DF15□□□350, Plastic film condenser
① One-way type, Mylar ±5% 50V
Capacity value

Examples
① Capacity value

0.001μF (1000pF) ... 102	0.015μF ... 153
0.0018μF ... 182	0.1μF ... 104
0.01μF ... 103	0.56μF ... 564
	1μF ... 105

8. ELECTRICAL PARTS LIST

REF. DESIG.	PART NO.	DESCRIPTION
		PJ00-REC/PLAY AMP CIRCUIT BOARD
PJ00	YK195T1510	P.W. Board R/P Amp
	ZZ196T1510	P.W. Board Assembly (PMD221)
	ZZ195T1510	P.W. Board Assembly (PMD201)
		PJ00-CAPACITORS
C705	DD15101300	Ceramic 100 pF ±5% (PMD201)
CG02	DF16474530	Film 0.47 μF ±10%
CL07	DF15123550	Film 0.012 μF ±5%
CJ41	DD15151300	Ceramic 150 pF ±5%
		PJ00-RESISTORS
R702	RK01030520	10kΩ (A) Variable
R707	RM01030270	10kΩ (W) Variable
RE14	RK02030670	20kΩ (B) Variable
RG06	GG05471120	470Ω ±5% 1/2W
RJ16	RA02230600	22kΩ (B) Trimming
RK01	RA02230600	22kΩ (B) Trimming
RL12	RA01040600	100kΩ (B) Trimming
RM14	RK05010060	500Ω (B) Variable
RM15	RA01020600	1kΩ (B) Trimming
RX01	RA01040600	100kΩ (B) Trimming
RY32	RA02230600	22kΩ (B) Trimming
		PJ00-SEMICONDUCTORS
DE01	HD20015210	Diode 1SS133
DE02	HD20015210	Diode 1SS133
DE03	HD20015210	Diode 1SS133
DG01	HD30021060	Zener RD5.IE-B2
DG02	HD30021060	Zener RD5.IE-B2
DK01	HD20015210	Diode 1SS133
DK02	HD20015210	Diode 1SS133
DK03	HD20015210	Diode 1SS133
DL01	HD20015210	Diode 1SS133
DL05	HD20015210	Diode 1SS133
DL06	HD30002020	Zener 3.9V
DL07	HD20015210	Diode 1SS133
DM09	HD30042060	Zener RD 7.5EB3
DX01	HD20015210	Diode 1SS133
Q701	HC10055210	IC BA527
QE01	HT327841U0	Transistor 2SC2784 U
QE02	HT327841U0	Transistor 2SC2784 U
QE03	HT327841U0	Transistor 2SC2784 U
QE04	HT327841U0	Transistor 2SC2784 U
QE05	HT327841U0	Transistor 2SC2784 U
QG01	HT333122B0	Transistor 2SC3312 S.T
QJ01	HT327841U0	Transistor 2SC2784 U
QJ02	HT327841U0	Transistor 2SC2784 U
QJ03	HT333122B0	Transistor 2SC3312 S.T
QJ04	HT333122B0	Transistor 2SC3312 S.T
QJ31	HT333122B0	Transistor 2SC3312 S.T
QK01	HC10017090	IC 4558 DD
QK02	HT333122B0	Transistor 2SC3312 S.T
QK03	HT333122B0	Transistor 2SC3312 S.T
QK04	HT333122B0	Transistor 2SC3312 S.T

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REF. DESIG.	PART NO.	DESCRIPTION
QK31	HT333122B0	Transistor 2SC3312 S.T
QK32	HT333122B0	Transistor 2SC3312 S.T
QK33	HT333122B0	Transistor 2SC3312 S.T
QL01	HT404711L0	Transistor 2SD471 L
QL02	HT404711L0	Transistor 2SD471 L
QL03	HT404711L0	Transistor 2SD471 L
QL04	HT333122B0	Transistor 2SC3312 S.T
QL05	HT113092B0	Transistor 2SA1309 S.T
QL06	HT113092B0	Transistor 2SA1309 S.T
QL07	HT113092B0	Transistor 2SA1309 S.T
QL31	HT333122B0	Transistor 2SC3312 S.T
QM09	HT333122B0	Transistor 2SC3312 R or S
QM10	HT333122B0	Transistor 2SC3312 R or S
QM11	HT30002000	Transistor 2SC2784, 2SC3312 etc.
QN01	HC10017090	IC 4558 DD (PMD221)
QN02	HT30002000	Transistor 2SC2784, 2SC3312 etc. (PMD221)
QX01	HT333122B0	Transistor 2SC3312 S.T
QX02	HT333122B0	Transistor 2SC3312 S.T
QY01	HT333122B0	Transistor 2SC3312 S.T
QY02	HT30002000	Transistor 2SC2784, 2SC3312 etc.
QY03	HT30002000	Transistor 2SC2784, 2SC3312 etc.
		PJ00-MISCELLANEOUS
J701	YJ01002090	Jack Headphone
J702	YJ01002160	Jack Ext SP
JE01	YJ01002160	Jack Tel Pick up
JE02	YJ01002160	Jack Mic
JE03	YJ04080260	Jumper Lead
JE04	YU05080260	Jumper Lead
JG01	YT02020280	Terminal Pin Jack 2P
JG02	YJ01002430	Jack Direct Tel
JL01	YJ06003110	Jack Connector
JL02	YJ04000840	Jack DC IN
JM02	YJ01002440	Jack Remote
JY01	YJ06003250	Jack Connector
LJ41	LC22260700	Choke Coil 22mH
LK01	LC25650700	Choke Coil 5.6mH
LK02	LC24760520	Choke Coil Bias Trap 85kHz
LL01	TC10150070	Osc Transf. Bias Osc Coil
LL02	LC14730040	Choke Coil 47μH
LL05	TC10200090	Osc Transf. DC-DC Converter
LL06	LC14730040	Choke Coil 47μH
LL07	LC21050700	Choke Coil 1mH
S701	SS02020740	Slide Switch Speaker ON/OFF
SG01	SP02020730	Push Switch Tape/Source Select (PMD221)
SJ01	SS06020570	Slide Switch Rec/Play
SK01	SR02030130	Rotary Switch Rec Mode
SK02	SS02030230	Slide Switch Tape Select
TG01	T012414010	Output Transf. Direct

REF. DESIG.	PART NO.	DESCRIPTION
		PL00-LED CIRCUIT BOARD
PL00	YK195T1540	P.W. Board LED
	ZZ195T1540	P.W. Board Assembly
		PL00-MISCELLANEOUS
DY08	HI10056020	LED Rec Ind.
DY28	HI10025020	LED Batt Ind.
		PM00-MECHA CONTROL CIRCUIT BOARD
PM00	WC195T0210	P.W. Board Mecha Control
	ZZ196T0210	P.W. Board Assembly (PMD221)
	ZZ195T0210	P.W. Board Assembly (PMD201)
		PM00-CAPACITOR
CM09	DK46102300	Ceramic 1000pF ±10% Chip
		PM00-RESISTORS (All Resistors are ±5% & 1/8W)
JM03	RI05000180	Resistor 0Ω 1/8W Chip
JM04	RI05000180	Resistor 0Ω 1/8W Chip
RM01	NB50052390	0.5Ω 1/2W
RM02	RI05022180	2.2Ω Chip
RM03	NB51032200	10kΩ 1/2W
RM04	RA03320600	3.3kΩ (B) Trimming
RM05	RI05473180	47kΩ Chip
RM06	RI05473180	47kΩ Chip (PMD221)
RM06	RI05000180	0Ω Chip (PMD201)
RM07	RI05473180	47kΩ Chip
RM08	RI05472180	4.7kΩ Chip
RM09	RI05681180	680Ω Chip
RM10	RI05472180	4.7kΩ
RM11	RI05473180	47kΩ
RM12	RI05681180	680Ω
RM13	GA05047010	4.7Ω 1W
		PM00-SEMICONDUCTORS
DM01	HZ20001020	Diode Chip
DM02	HZ20016210	Diode 1SR35-200
DM03	HZ20001020	Diode Chip
DM04	HZ20001020	Diode Chip
DM05	HZ20001020	Diode Chip
DM06	HZ20001020	Diode Chip
DM07	HZ20001020	Diode Chip
DM08	HZ30003020	Zener MA30
QM01	HC10037020	IC AN6612
QM02	HT108811Q0	Transistor 2SA881
QM03	HX413262A0	Transistor 2SD1328 R.S Chip
QM04	BA20002210	Semicon. Comp DTC-124E K
QM05	HX413282A0	Transistor 2SD1328 R.S Chip
QM06	BA20002210	Semicon. Comp DTC-124E K
QM07	HC10024020	IC DN6864
QM08	HC10039210	IC BA668
		PM00-MISCELLANEOUS
JM01	YB00080120	Connective Cord
		PM01-MEMORY SWITCH CIRCUIT BOARD (PMD221, ONLY)
PM01	WC195T0220	P.W. Board Memory SW
	ZZ196T0220	P.W. Board Assembly
SM01	SP02020840	Push Switch Memory Rew

REF. DESIG.	PART NO.	DESCRIPTION
		PS00-INPUT SELECT CIRCUIT BOARD
PS00	YK195T1520	P.W. Board Switch Input
	ZZ195T1520	P.W. Board Assembly
		PS00-MISCELLANEOUS
SS01	SS02030290	Slide Switch Input Select
SS02	SS02030290	Slide Switch Anc Select
SS03	SS02030290	Slide Switch Mic Att.
		PS01-TAPE SPEED SELECT CIRCUIT BOARD
PS01	YK195T1530	P.W. Board Speed Switch
	ZZ195T1530	P.W. Board Assembly
SS04	SS02020760	Slide Switch Tape Speed

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

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9. TECHNICAL SPECIFICATIONS

Model PMD221

Tape Drive System ..... Single Capstan Drive
Cartridge ..... Philips type compact cassette
Track System 2-track 1-channel
Tape Speed ..... 1-7/8 ips and 15/16 ips
Heads ..... 3 Head System
Record: Super Hard Metal Alloy
Playback: Super Hard Metal Alloy
Erase: Dual Gap Metal Alloy
Motor ..... DC Servo Motor

Frequency Response:

	Standard Speed 1-7/8 ips (±3 dB)	Long Play 15/16 ips (±3 dB)
Normal Tape	40 Hz ~ 12.5 kHz	40 Hz ~ 6.5 kHz
CrO_2 Tape	40 Hz ~ 14 kHz	40 Hz ~ 7.5 kHz
Metal Tape	40 Hz ~ 15 kHz	40 Hz ~ 8.5 kHz

Signal to Noise Ratio:
Normal Tape ..... 55 dB
CrO_2 Tape ..... 57 dB
Metal Tape ..... 57 dB

Wow and Flutter (WRMS)
Standard Speed 1-7/8 ips 0.12%
Long Play 15/16 ips 0.15%

Output Level/Impedance
Line ..... 650 mV/2 k ohms
Headphone ..... 280 mV/8 ohms

Input Sensitivity/Impedance
Line ..... 40 mV/56 kohms
Microphone ..... 0.3 mV/9 k ohms

General:
Power Requirements ..... 120 V, 50/60 Hz
Battery Requirements (RB430 Battery Pack Optional) ..... 3 D Cells or RB430 Rechargeable Battery Pack
Battery Life
With Alkaline Batteries
Playback Time ..... 7.5 Hours
Recording Time with Metal Tape ..... 5.5 Hours
With RB430 Battery Pack (optional)
Playback Time ..... 4.5 Hours
Recording Time with Metal Tape ..... 4.0 Hours
Unit Dimensions and Weight
Width ..... 228 mm (9")
Heigth ..... 51 mm (2")
Depth ..... 165 mm (6.5")
Weight ..... 1.3 kg (2.87 lbs.)

Model PMD201

Tape Drive System ..... Single Capstan Drive
Cartridge ..... Philips type compact cassette
Track System 2-track 1-channel
Tape Speed ..... 1-7/8 ips and 15/16 ips
Heads ..... 2 Head System
Record/Playback: Super Hard Metal Alloy
Erase: Dual Gap Metal Alloy
Motor ..... DC Servo Motor

Frequency Response:

	Standard Speed 1-7/8 ips (±3 dB)	Long Play 15/16 ips (±3 dB)
Normal Tape	40 Hz ~ 12 kHz	40 Hz ~ 6 kHz
CrO_2 Tape	40 Hz ~ 13.5 kHz	40 Hz ~ 7 kHz
Metal Tape	40 Hz ~ 14 kHz	40 Hz ~ 8 kHz

Signal to Noise Ratio:
Normal Tape ..... 55 dB
CrO_2 Tape ..... 57 dB
Metal Tape ..... 57 dB

Wow and Flutter (WRMS)
Standard Speed 1-7/8 ips 0.12%
Long Play 15/16 ips 0.15%

Output Level/Impedance
Line ..... 650 mV/2 k ohms
Headphone ..... 280 mV/8 ohms

Input Sensitivity/Impedance
Line ..... 40 mV/56 kohms
Microphone ..... 0.3 mV/9 k ohms

General:
Power Requirements ..... 120 V, 50/60 Hz
Battery Requirements (RB430 Battery Pack Optional) ..... 3 D Cells or RB430 Rechargeable Battery Pack
Battery Life
With Alkaline Batteries
Playback Time ..... 7.5 Hours
Recording Time with Metal Tape ..... 5.5 Hours
With RB430 Battery Pack (optional)
Playback Time ..... 4.5 Hours
Recording Time with Metal Tape ..... 4.0 Hours
Unit Dimensions and Weight
Width ..... 228 mm (9")
Heigth ..... 51 mm (2")
Depth ..... 165 mm (6.5")
Weight ..... 1.3 kg (2.87 lbs.)

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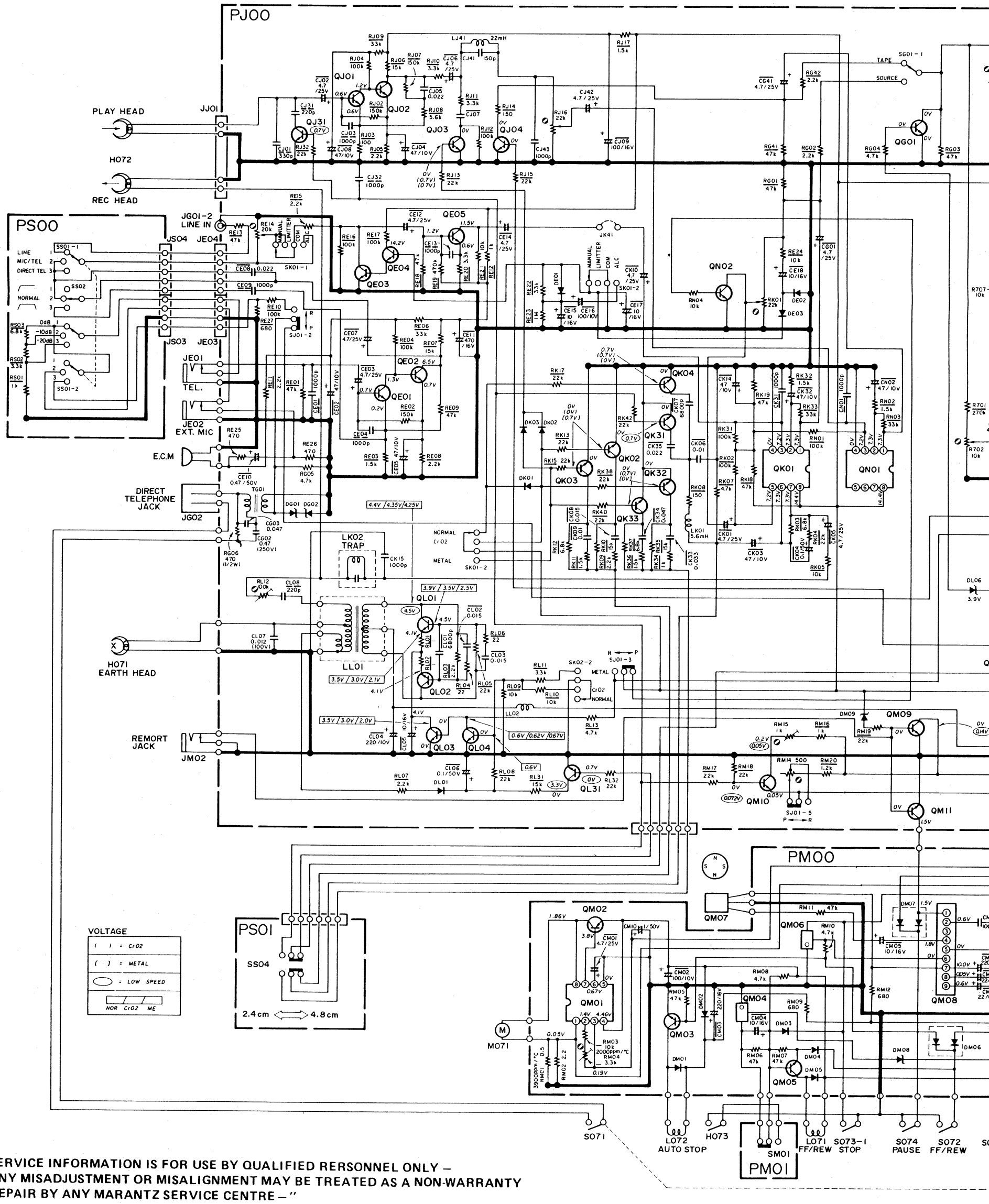
10. SCHEMATIC DIAGRAM

Q701	QE01～QE05	QG01,QJ03,QJ04,QK02～QK04	QK01,QN01	QL01～QL03	QL05～QL07	QM01	QM02	QM03,QM05	QM04,QM06	QM07	QM08
HC10055210	QJ01,QJ02	QK31～QK33,QL04,QL31,QM09,QM10	HC10017090	HT40471ILO	HTI13092B0	HC10037020	HT10881IQ0	HX413282A0	BA20002210	HC10024020	HC100
BA527	HT32784IU0	QX01,QX02,QY01	NJM2043DD	2SD471(L)	2SA1309	AN6612	2SA881(Q)	2SD1328	DTC-124E	DN6838	BA337
	2SC2784(U)	HT333122B0			(S,T)			(R,S)			
		2SC3312(R,S)									



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Kind of Common Parts

RESISTOR

R*** (1) GD05 - - - 140, Carbon film fixed resistor, ±5% 1/4W
R*** (2) GD05 - - - 160, Carbon film fixed resistor, ±5% 1/6W

C*** : **CERAMIC CAP.**
(1) DD1 - - - - 370, Ceramic condenser, disc type (titan condenser) Temp. coeff. P350 ~ N1000 50V

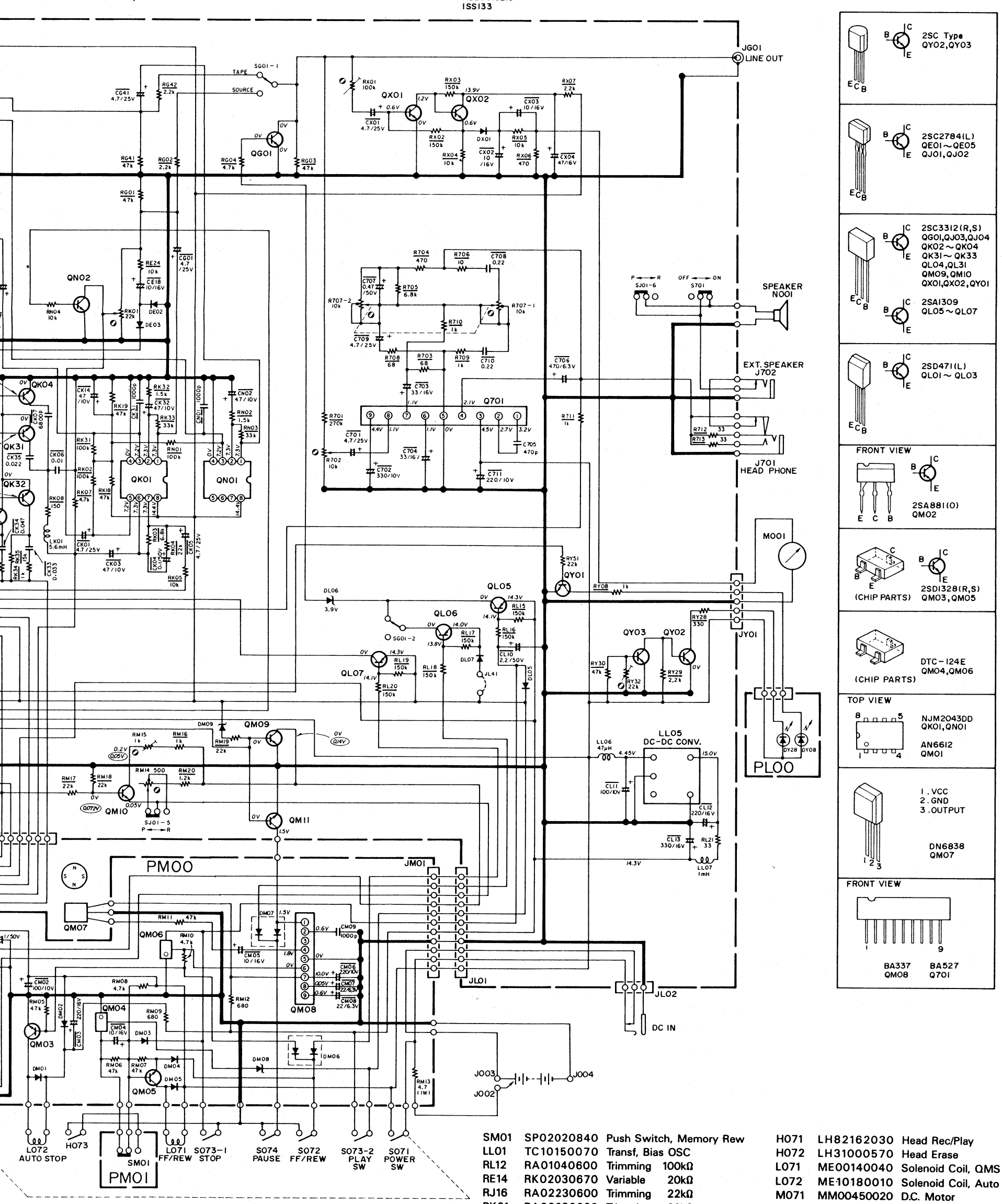
C*** : **CERAMIC CAP.**
(1) DK16 - - - 300, High dielectric constant ceramic condenser, disc type (titan variable) Temp. chara. 2B4 50V

C*** : **ELECTROLY CAP. (⧧) / FILM CAP. (⥤)**
(1) EA - - - - - - 10, Electrolytic condenser, one-way lead type, tolerance ±20%
(2) DF15 - - - 350, Plastic film condenser, one-way type, Mylar, ±5% 50V

* In case of ordering the common parts, please establish the correct parts number of 10 figures by the procedure "ASSIGNMENT OF COMMON PARTS CODES"

Model PMD221

QM02 HT10881(Q0 2SA881(Q)	QM03,QM05 HX413282A0 2SD1328 (R,S)	QM04,QM06 BA20002210 DTC-124E	QM07 HC10024020 DN6838	QM08 HC10039210 BA337	QY02,QY03 HT30002000 ZENER 3.9V	DE01 ~ DE03 DK01 ~ DK03 DL01,DL05,DL07,DX01 HD20015210 ISS133	DL06 HD30002020	DM01 DM03 ~ DM07 HZ20001020	DM02 HD20016210 ISR35	DY08 HI10056020	DY28 HI10025020



FILM CAP. (⇌)

c condenser,
ad type, tolerance ±20%
n condenser,
ype, Mylar, ±5% 50V

rts, please establish the correct
procedure "ASSIGNMENT OF

SM01	SP02020840	Push Switch, Memory Rew	H071	LH82162030	Head Rec/Play
LL01	TC10150070	Transf, Bias OSC	H072	LH31000570	Head Erase
RL12	RA01040600	Trimming 100kΩ	L071	ME00140040	Solenoid Coil, QMS Auto Rew
RE14	RK02030670	Variable 20kΩ	L072	ME10180010	Solenoid Coil, Auto Stop
RJ16	RA02230600	Trimming 22kΩ	M071	MM00450020	D.C. Motor
RK01	RA02230600	Trimming 22kΩ	M001	IM31040030	V.U. Meter
RX01	RA01040600	Trimming 100kΩ	N001	QJ72478010	Speaker 4Ω
RY32	RA02230600	Trimming 22KΩ	N002	MS50000150	MIC Unit
R702	RK01030520	Variable 10kΩ	S071	SM02010180	Mini Switch, Motor
R707	RM01030270	Variable 10kΩ	S072	SM01011140	Mini Switch, F/R
SG01	SP02020730	Push Switch, Tape/Source	S073	SM01011210	Mini Switch, Play
SJ01	SS06020570	Slide Switch, Rec/Play	S074	SM01011210	Mini Switch, Pause
SK01	SR02030130	Rotary Switch, Rec Mode	S076	153T052010	Counter
SK02	SS02030230	Slide Switch, Tape Selector			
S701	SS02020740	Slid Switch, Speaker ON/OFF	218M	153T264020	Belt Counter
TG01	T012414010	Output Transf.	223M	242T264120	Belt Drive
SS01	SS02030290	Slide Switch, Input Selector	229M	153T264010	Main Belt
SS02	SS02030290	Slide Switch, ANC Selecor	107M	153T002590	Arm Ass'y Roller, Pinch
SS03	SS02030290	Slide Switch, MIC ATT.	219M	153T273010	Main Flywheel
SS04	SS02020760	Slide Switch, Tape Speed.	220M	153T273020	Sub Flywheel

Components and wiring are subject to change for modification without notice.

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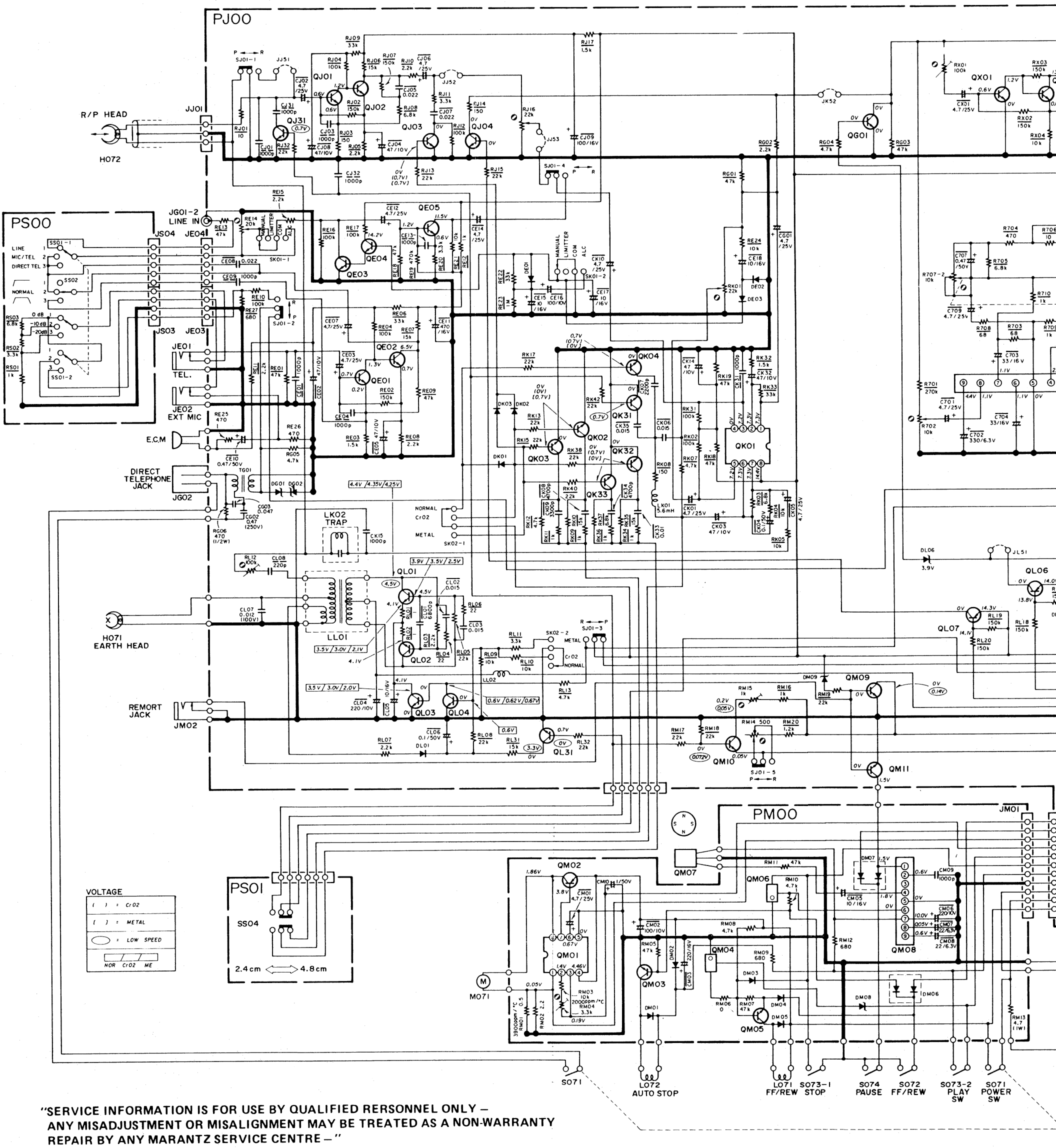
Q701 HC10055210 BA527	QE01～QE05 QJ01,QJ02 HT327841U0 2SC2784(U)	QG01,QJ03,QJ04,QK02～QK04 QK31～QK33,QL04,QL31,QM09,QM10 QX01,QX02,QY01 HT333122B0 2SC3312(R,S)	QK01 HC10017090 NJM2043DD	QL01～QL03 HT404711L0 2SD471(L)	QL05～QL07 HT113092B0 2SA1309 (S,T)	QM01 HC10037020 AN6612	QM02 HT10881Q0 2SA881(Q)	QM03,QM05 HX413282A0 2SD1328 (R,S)	QM04,QM06 BA2000221O DTC-124E	QM07 HC10024020 DN6838	QM08 HC10039210 BA337	QY02,QY03 HT30002000	DE DK DU HE IS



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RESISTOR

R*** (1) GD05 - - - 140, Carbon film fixed resistor, ±5% 1/4W
R*** (2) GD05 - - - 160, Carbon film fixed resistor, ±5% 1/6W

C*** : **CERAMIC CAP.**
(1) DD1 - - - - 370, Ceramic condenser, disc type (titan condenser) Temp. coeff. P350 ~ N1000 50V

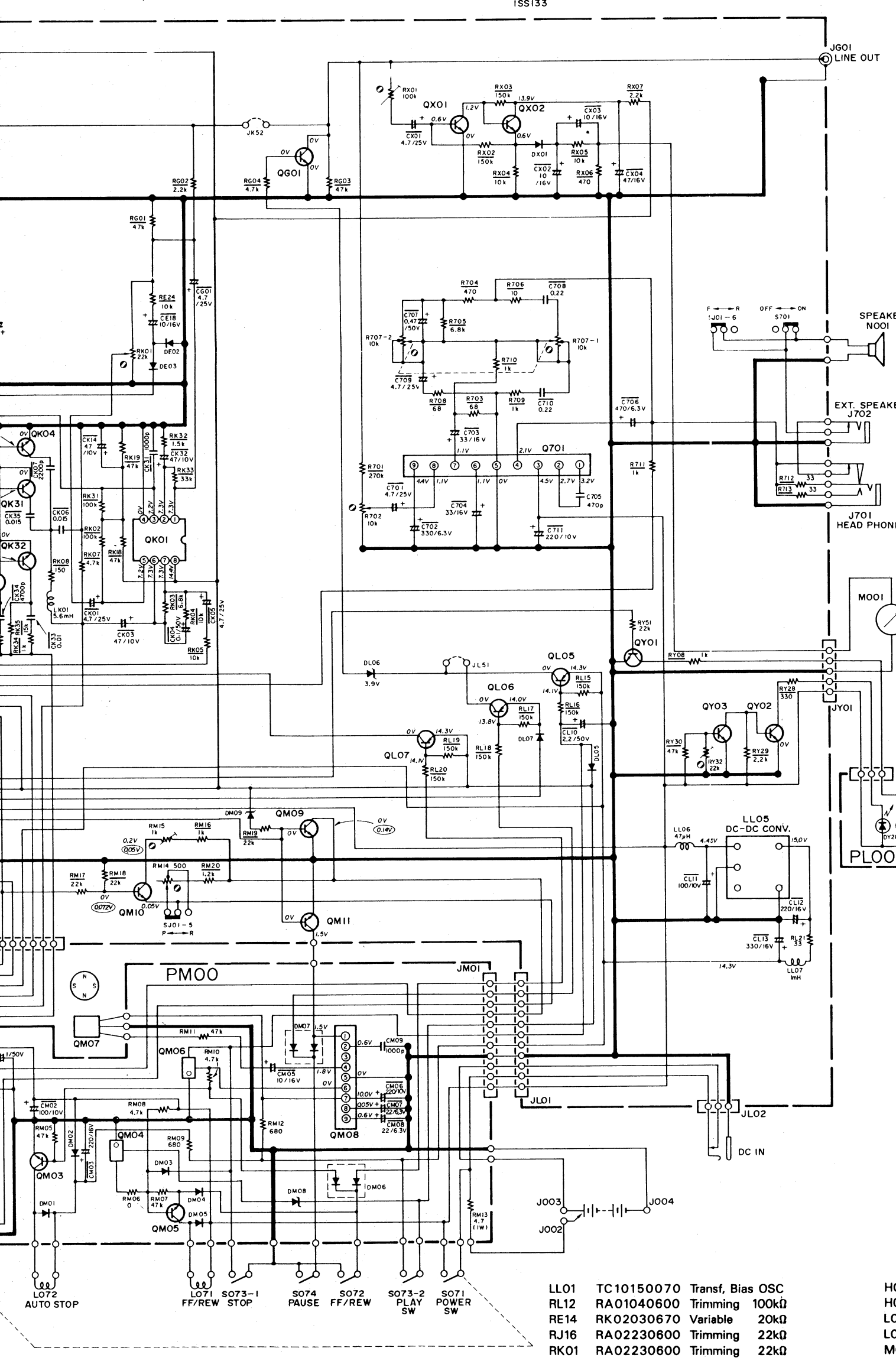
C*** : **CERAMIC CAP.**
(1) DK16 - - - 300, High dielectric constant ceramic condenser, disc type (titan variable) Temp. chara. 2B4 50V

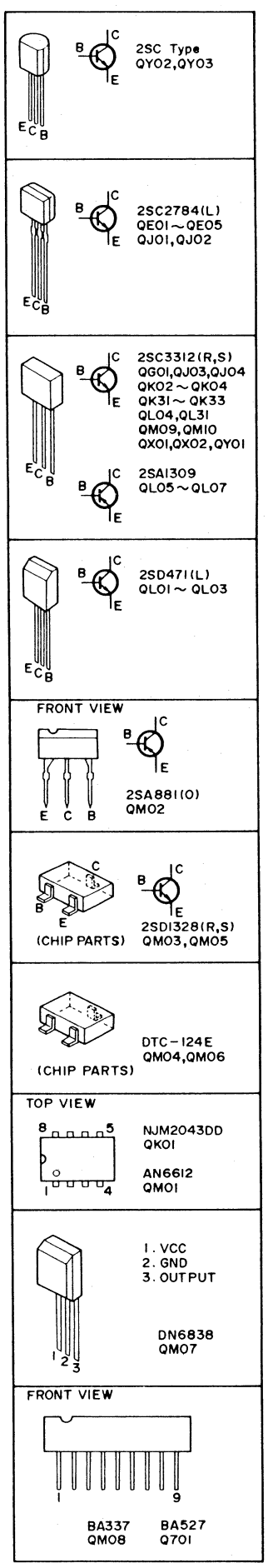
C*** : **ELECTROLY CAP. (⧺) / FILM CAP. (⇌)**
(1) EA - - - - - - 10, Electrolytic condenser, one-way lead type, tolerance ±20%
(2) DF15 - - - 350, Plastic film condenser, one-way type, Mylar, ±5% 50V

* In case of ordering the common parts, please establish the correct parts number of 10 figures by the procedure "ASSIGNMENT OF COMMON PARTS CODES"

Model PMD201

QM02 HT10881(Q) 2SA881(Q)	QM03,QM05 HX413282A0 2SD1328 (R,S)	QM04,QM06 BA20002210 DTC-124E	QM07 HC10024020 DN6838	QM08 HC10039210 BA337	QY02,QY03 HT30002000	DE01～DE03 DK01～DK03 DL01,DL05,DL07,DX01 HD20015210 ISS133	DL06 HD30002020 ZENER 3.9V	DM01 DM03～DM07 HZ20001020	DM02 HD20016210 ISR35	DY08 HI10056020	DY28 HI10025020





P. (⧺) / FILM CAP. (⥤)
lectrolytic condenser,
ne-way lead type, tolerance ±20%
lastic film condenser,
ne-way type, Mylar, ±5% 50V

mmon parts, please establish the correct
s by the procedure "ASSIGNMENT OF

LL01	TC10150070	Transf, Bias OSC		H071	LH41601040	Head Rec/Play	
RL12	RA01040600	Trimming	100kΩ	H072	LH31000570	Head Erase	
RE14	RK02030670	Variable	20kΩ	L071	ME00140040	Solenoid Coil, QMS Auto Rew	
RJ16	RA02230600	Trimming	22kΩ	L072	ME10180010	Solenoid Coil, Auto Stop	
RK01	RA02230600	Trimming	22kΩ	M071	MM00450020	D.C. Motor	
RX01	RA01040600	Trimming	100kΩ	M001	IM31040030	V.U. Meter	
RY32	RA02230600	Trimming	22kΩ	N001	QJ72478010	Speaker	4Ω
R702	RK01030520	Variable	10kΩ	N002	MS50000150	MIC Unit	
R707	RM01030270	Variable	10kΩ	S071	SM02010180	Mini Switch, Motor	
SJ01	SS06020570	Slide Switch, Rec/Play		S072	SM01011140	Mini Switch, F/R	
SK01	SR02030130	Rotary Switch, Rec Mode		S073	SM01011210	Mini Switch, Play	
SK02	SS02030230	Slide Switch, Tape Selector		S074	SM01011210	Mini Switch, Pause	
S701	SS02020740	Slide Switch, Speaker ON/OFF		S076	195T052010	Counter	
TG01	T012414010	Output Transf.		107M	153T002590	Arm Ass'y Roller, Pinch	
SS01	SS02030290	Slide Switch, Input Selector		218M	153T264020	Belt Counter	
SS02	SS02030290	Slide Switch, ANC Selector		219M	153T273010	Main Flywheel	
SS03	SS02030290	Slide Switch, MIC ATT.		220M	153T273020	Sub Flywheel	
SS04	SS02020760	Slide Switch, Tape Speed		223M	242T264120	Belt Drive	
				239M	153T264010	Main Belt	

Components and wiring are subject to change for modification without notice.

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